

REMARKS/ARGUMENTS

The Examiner is thanked for their review of the application.

Claims 1, 3-7, 9-14, 16-28 remain in this application. Claims 14 and 21 have been amended. No new matter has been added.

35 U.S.C. 101

In the Office Action dated January 13, 2009, the Examiner has rejected Claims 14-16-21, 23-25 and 27 under U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Regarding this rejection, the Examiner has also stated that “based on Supreme Court precedent¹ and recent Federal Circuit decisions, § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing... In this particular case, independent process claims 14 and 21 are not tied to any particular apparatus. Therefore, they are not patent eligible processes/methods under 35 U.S.C. § 101.”

The Examiner has also stated that “Claims 14, 21, 23 and 24 are also rejected as each is directed to an algorithm. For example, claims 14 and 23 are directed to ‘optimizing prices’ while ‘holding’ initial prices constant. This merely describes a step in a calculation. Therefore, as the claimed algorithm has not been used to produce a useful, concrete and tangible result (*AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999); *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 47 USPQ2d 1596 (Fed. Cir. 1998)) it is non-statutory. Claim 21, on the other hand recites, ‘setting prices’. However, it is unclear whether this is performed as part of the calculation (e.g. a reiterative process, refining the model, testing the hypothesis) or is a price database updated and these new prices are acted upon to produce a useful concrete and tangible result. Claim 24 merely describes using a server to perform a calculation. Claims 16-20 and 25-28 are also rejected as each depends from claims 1 and 14.”

Base Claim 14 has been amended to recite, in relevant part “setting the price for the subset of products by replacing current prices for the subset of products with the optimized prices of the subset of products, wherein the price setting establishes the amount of money consumers pay for each product of the subset of product, and wherein the price setting includes transforming a pricing display.”

Likewise, Claim 21 has been amended to recite in relevant part “setting prices for the subset of products according to the received new prices, wherein the price setting establishes the amount of money consumers pay for each product of the subset of product, and wherein the price setting includes transforming a pricing display.”

Support for the amendments to Claims 14 and 21 may be found at page 100, lines 7-8 of the specification as filed, which states “The support tool 116 comprises a rule editor 412 and an output display 416.” See also, page 101, lines 8-10 which state “The price calculator 408 outputs the optimized prices to the output display 416 of the support tool 116, which allows the stores 124 to receive the optimized pricing (step 232).”

Applicants believe that Claim 14 is tied to an apparatus as it is being “computer-implemented”. Thus, the process is tied to another statutory class and is an allowable process under 35 USC 101.

Furthermore, regarding both Claims 14 and 21, by setting prices for products and transforming a display for those prices, there has been a transformation of the underlying matter. Particularly, invoices, price lists and databases including pricing will be transformed by the setting of the preferred prices. The amount of money generated by the business will also be altered by the setting of prices, which is an ancillary transformation. By displaying the prices, be it a hardcopy price printout or an electronic display, the graphical representation update is a tangible and notorious physical transformation of a paper substrate, or electrical charges in a monitor.

Moreover, in the context of a computing system such as that described in some embodiments in the present specification, Applicants submit that a person of ordinary skill in the art would readily appreciate that practicable embodiments of the claimed invention would be conducted with the aid of a computing machine, such as a server. Such computing machines are commonly understood to have memory. Further, the operations recited in the claims clearly change the state of the underlying

data since the cache, register, or other memory on which the data is stored must be transformed to have a different magnetic polarity, electrical charge, or the like depending on the technology that is used. These are real physical changes. Further, memory is a real physical article. As such, Applicants submit that the method claims perform a transformation under the “machine or transformation” test and thus qualify as patent-eligible subject matter.

Moreover, the step of “setting prices” which includes “transforming a pricing display” results in a process which clearly goes beyond that of an algorithm. Further, Applicants assert that the claims as currently stated do not simply disclose an algorithm since all base claims produce useful, concrete and tangible results. The claims include the ‘**setting of prices**’, and the ‘**reporting of optimized pricing for price setting**’ and ‘**transforming a pricing display**’. (Emphasis Added). Setting prices, as stated in all base claims 1, 14, 21, 23 and 24, “**establishes the amount of money consumers pay for each product** of the subset of product.” (Emphasis Added).

Optimal price setting is integral to the success of businesses, thereby fulfilling usefulness. Prices actually change for consumers, thus there is a tangible element to the price setting. Likewise, the price setting is non-arbitrary, as it is designed to maximize profit or another objective. Therefore, price setting is also concrete. Thus, price setting, and the reporting of, clearly produces a **concrete, tangible and useful result**. As such, Applicants believe the rejection of Base Claims 14 and 21 under 35 USC 101 is unfounded and erroneous.

In the same Office Action, the Examiner has rejected Claims 1, 3-7, 9-14 and 16-28 under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding this rejection, the Examiner has stated that “Claim 1 is rejected, as given its broadest reasonable interpretation, it reads on storing non-functional descriptive material such as a program listing or pseudo code on a floppy or optical disk (i.e. computer readable media comprising...)” (MPEP 2106.01). Claim 23 is also rejected as it recites similar language. Claims 3-7, 9-13, 26 and 28 are also rejected as each depends from claim 1.”

Applicants believe that the Examiner has mischaracterized Claims 1 and 23. Citing the MPEP section 2106, “a claimed invention may be a combination of devices that appear to be directed to a machine and one or more steps of the functions performed by the machine. Such

instances of mixed attributes, although potentially confusing as to which category of patentable subject matter the claim belongs, do not affect the analysis to be performed by USPTO personnel. Note that **an apparatus claim with process steps** is not classified as a ‘hybrid’ claim; instead, it is **simply an apparatus claim including functional limitations**. See, e.g., *R.A.C.C. Indus. v. Stun-Tech, Inc.*, 178 F.3d 1309 (Fed. Cir. 1998) (unpublished).” (Emphasis Added).

Applicants assert that Claim 1 clearly recites an apparatus with structural limitations (i.e., modeling engine, subset generator, optimizer and interface). Such an apparatus clearly falls within the enumerated category of a “machine”. (See, MPEP 2106). As such, Applicants believe the rejection of Claim 1 under 35 USC 101 is erroneous and unfounded. Applicants particularly point out that, even given the broadest possible interpretation, an “interface” as claimed is incapable of being non-functional descriptive material.

Argumentum, even if one were to take the position that the subject matter within Claims 1 and 23 did fall under “descriptive subject matter”, Applicants believe, contrary to the Examiner’s perspective, that base Claims 1 and 23 disclose “functional descriptive material” as they are “data structures and computer programs **which impart functionality when employed as a computer component.**” (MPEP 2106.01). (Emphasis Added).

Regarding this kind of functional descriptive material, “a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure’s functionality to be realized, and is thus statutory.” (MPEP 2106.01 subsection I). Thus, “[w]hen a computer program is recited in conjunction with a physical structure, such as a computer memory, USPTO personnel should treat the claim as a product claim.” (MPEP 2106.01 subsection I).

Hence, Applicants believe that Claims 1 and 23 recites statutory subject matter, and thus the rejections under 35 USC 101 are improper for at least one of the above reasons.

35 U.S.C. 112

The Examiner has also rejected Claims 1, 3-7, 9-13, 26, 27 and 28 under 35 U.S.C. 112, second paragraph, and stated that it is “indefinite for failing to particularly point out and distinctly

claim the subject matter which applicant regards as the invention. Claim 1 is directed to an apparatus. However, claim 1 lacks ‘structure’. Therefore, the scope of Applicant’s claimed apparatus is unclear to one of ordinary skill (*In re Zletz*, 13 USPQ2d 1320 (Fed. Cir. 1989).”

Applicants believe that there is no basis for such rejections. Claim 1, as currently stated, includes an apparatus claim with the necessary structural components; that being the database, modeling engine, subset generator, optimizer and interface.

As such, Applicants believe the rejections under 35 USC 112 are unfounded and erroneous. Furthermore, Applicants request further clarification as to what the Examiner believes is ‘unstructured’ in Claim 1 such that the prosecution of this application may be continued in an efficient and timely manner.

On a separate note, Applicants are somewhat confused as to the citation provided by the examiner in that *In re Zletz*, 13 USPQ2d 1320 (Fed. Cir. 1989) appears to be unrelated to the argument presented (i.e., claim structure). Instead, *In re Zletz* appears to merely discuss claim interpretation by stating that “during patent examination the pending claims must be interpreted as broadly as their terms reasonably allow. When the applicant states the meaning that the claim terms are intended to have, the claims are examined with that meaning, in order to achieve a complete exploration of the applicant’s invention and its relation to the prior art.” *In re Zletz* does not appear to discuss the structure of claims, nor the standards of claim structure required to inform one of ordinary skill. As such, Applicants believe the Examiner’s rejection as to the definiteness of Claims 1, 3-7, 9-13, 26, 27 and 28 is a mere conclusion statement.

35 U.S.C. 103(a)

The Examiner has also rejected Claims 1, 3-7, 9-13, 26, and 28 under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al. (6,094,641). Regarding this rejection, the Examiner has stated that “Ouimet et al. teach an apparatus comprising a computer readable media that can be used for calculating a preferred set of prices for a plurality products or a subset of said plurality (figure 2).”

Applicants believe that the present invention is nonobvious over Ouimet et al., Hartman et al. and Delurgio et al. because the cited references neither teach nor suggest each and every element of claims 1, 14, or 21-24.

Ouimet discloses “[a] method for incorporating psychological effects into a demand model” by selecting a model, tuning the model, optimizing and outputting the results of optimization. (See Abstract; see also Figure 3 and accompanying text at Column 3, line 43 to Column 4, line 24).

The primary focus of Ouimet appears to be the inclusion of psychological factors such as how prices are perceived and product visibility. (Column 3, lines 1-12). In Ouimet, a demand model is selected, a pricing perception model is selected, and a visibility model is selected. (Column 4, lines 35-66). The demand model is then tuned by multiplying the original demand model by the pricing perception model, and visibility model. (Column 5, lines 14-21).

However, Ouimet fails to disclose any mention of subset generation. Nor does Ouimet discuss optimization of a subset of products. Furthermore, Ouimet appears to not include any teaching, suggestion or even contemplation of product subsets for optimization or any other purpose.

Given that Ouimet fails to teach, suggest or show motivation of these limitations, Applicants believe that Claims 1, 3-7, 9-13, 26, and 28 are allowable for at least these reasons.

The Examiner also rejected Claims 14 and 16-27 under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al. (6,094,641) in view of Hartman et al. (5,987,425) and Delurgio et al. (6,553,352). Regarding this rejection, the Examiner has stated that “Ouimet teaches a computer implemented method for computing a preferred set of prices comprising: a. the storing of initial prices of a plurality of products (column 3, lines 1-13), b. creating a demand model for generating said prices (figures 3-4B; column 3, lines 1-13), c. displaying optimized prices and setting store prices according to the displayed optimized price (column 1, lines 65-67; column 2, lines 12-17)...Ouimet also teaches that an advantage of their system is that any demand model can be used (column 1, lines 59-62 hence, it would have been to one of ordinary skill to use a model derived from Bayesian statistics...Claim 22 is being interpreted as a product by process claim. According to the MPEP section 2113, PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE. In this case, the

product is the database. Ouimet teaches that the user will be provided with a database of predefined demand models from which to choose (column 4, lines 37-39)...Ouimet does not explicitly recite dividing products into subsets. Hartman et al. teach deriving optimal prices for a plurality of products by dividing subsets according to department and price sensitivity (abstract; figure 5; column/line 2/57-3/49; column/line 4/35-5/25). Regarding, the selection of a subset of products, Hartman et al. teach product subsets being determined by ‘experienced retailers’ who have a ‘good feel for the price sensitivity of items’ in a product line (‘425, column 5, lines 48-64). ... Therefore, it would have been obvious to one of ordinary skill to automate the subset selection process of Hartman et al. using a well known computer algorithm such as integer programming (IP) (Note it is inherent to the solution of an IP problem to ‘relax’ the integer constraint in order to convert the IP problem to a more solvable LP or linear programming problem).”

Regarding the rejections of Claims 14 and 22, Applicants assert that none of the cited prior art discloses the limitation of “**optimizing prices for products in the subset** of products using the demand model, while **maintaining the initial prices of products of the plurality of products that are not in the subset** of products using the demand model” in the manner of Claims 14 and 22. (Emphasis Added).

Hartman discusses the generation of “retail prices based on customer price sensitivity.” (See Abstract). However, unlike Ouimet, Hartman discloses a system which teaches away from pricing optimization in favor of “[a] radically different approach [] where the basic philosophy is that retail prices need to be close to a vague undefined target.” (Column 2, lines 55-59).

In Hartman “dealers first review their entire inventory and **assign the SKUs to pools which indicate the dealer’s feel as to the degree of the customers’ sensitivity** to retail prices.” (Emphasis Added). (Column 2, lines 61-63). Variable pricing theory is then utilized to assign prices to the products dependent upon price sensitivity. (Column 6, lines 13-25).

The pooling of products in Hartman is performed based upon dealer’s feeling of **consumer pricing sensitivity**. (Column 4, line 35 to Column 5, line 25). Then, **all pools have their price set**, but in a way that is at odds with price optimization. (Column 8, lines 58-64).

Thus, Hartman does not appear to disclose the generation of a subset of products which have “the largest impact on optimization of prices” while leaving all other product prices alone, in the manner of Claims 14 and 22. Moreover, Hartman does not disclose the optimization of prices. As such, Hartman clearly fails to disclose optimization of the subset while holding all other products’ prices constant, as Claimed.

In addition to the above arguments, Applicants believe that Hartman is not combinable as a matter of art with Ouimet. Applicants believe that the methodology of **Hartman is simply incompatible with Ouimet**.

The method disclosed in Ouimet appears to be a system for further tuning a demand model by taking into account “psychological effects”. (column 3, lines 1-3). The “modified demand model from the Tuning Process [is utilized] to determine the price for each item that will **maximize profits.**” (Column 5, lines 45-50). (Emphasis added). As such, Ouimet appears to **necessitate computing specific, singular output values: the price for each item that maximizes profits.**

In contrast, Hartman teaches away from Ouimet by disclosing a method for developing “**variable margin pricing** of products” rather than a specific value (column 1, lines 6-10). In Hartman a “radically different approach has been taken . . . where the basic philosophy is that **retail prices only need to be close to a vague undefined target.**” (Column 2, lines 56-60) (Emphasis added). Further, Hartman states that “there is no such thing as a correct retail price.” (Column 4, lines 41-43). Hartman self proclaims its “radical[]” distinctiveness in no uncertain terms. (Emphasis added).

As such, Hartman’s **methodology appears to be at complete odds to the method of Ouimet.** With such a fundamental difference of methodology, it is clear that the methods disclosed by Hartman, and that of Ouimet, are incompatible methods and thus, at the least, their combinability is non-obvious.

In sum, base claims 14 and 21 have been amended and are now believed to be allowable. Dependent claims 3-7, 9-13, 16-20, 25-28 which depend therefrom are also believed to be allowable as being dependent from their respective patentable parent claims 1, 14, 21-24 for at least the same reasons.

Applicants believe that all pending claims 1, 3-7, 9-14, 16-28 are now allowable over the cited art and are also in allowable form and respectfully request a Notice of Allowance for this application from the Examiner. Applicants hereby petition the Examiner for a one-month extension of time with which to respond to the referenced Office Action and have authorized the commissioner via EFS to charge our credit card to pay the extension of time fee (\$130). The commissioner is authorized to charge any additional fees that may be due to our Deposit Account No. 50-2766 (Order No. DT-0110). Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number 925-570-8198.

LAW OFFICES OF KANG S. LIM
PMB 436
3494 Camino Tassajara Road
Danville, CA 94506
Voice: (925) 570 8198
Facsimile: (925) 736 3974

Respectfully submitted,
/Kang S. Lim/
Kang S. Lim
Attorney for Applicant(s)
Reg. No. 37,491

CUSTOMER NO. 36088